

Under the section entitled "Other Publications," please amend the citation to read as follows:

"Nicholas B. La Thangue, "DRTF1/E2F: An Expanding Family Of Heterodimeric Transcription Factors Implicated In Cell-Cycle Control", [Clonexpress, Inc., pp. 108-114, (1994). "] Trends Biochem Sci., pp. 108-114, (1994).

Please replace the Abstract in its entirety with the following:

A synthetic polypeptide that allows for highly efficient transfer of DNA into eukaryotic cells, including, for example, non-dividing cells such as human peripheral blood monocytes and macrophages.

Please amend the paragraph starting at column 7, line 8 as follows:

A preferred NLS domain contains a short stretch of basic amino acids like the NLS of the SV40 virus large T antigen (PKKKRKV) (SEQ ID NO:3), which is an NLS that has been shown to be effective in mammalian cells (basic residues are highlighted). Another preferred NLS domain consists essentially of short hydrophobic regions that contain one or more basic amino acids (KIPIK) (SEQ ID NO:1), which is like the NLS of mating type .alpha.2. The NLSs that transport DNA into the plant cell nucleus often are bipartite, which means that they are usually comprised of a combination of two regions of basic amino acids (identified as stippled segments in Table I) separated by a spacer of more than four residues [(see stippled segments in Table I)], such as the Xenopus nucleoplasmin (KRPAATKKAGQAKKKK) (SEQ ID NO:55).

Please amend the paragraph starting at column 7, line 36 as follows:

A synthetic polypeptide of the present invention thus is comprised of a DNA binding domain and an NLS peptide domain which are separated by a third element, a hinge region of neutral amino acid, to minimize [stearic] steric interference between the two domains. For this purpose, the hinge region ranges in length from about six to twenty-five amino acids, and contains a stretch of neutral small amino acids without any bulky hydrophobic or ionic side chains.

Please amend the paragraph starting at column 8, line 50 and continuing to Column 9 as follows:

A gene therapy pursuant to the present invention also could involve an in vivo introduction of a structural DNA into cells of a patient's body. For stable transfer of genes into a target tissue using this method, the ligand to the target receptor will be conjugated to the synthetic polypeptide. The polypeptide-ligand combination can be complexed to a polynucleotide coding for the needed protein and then introduced into the host organism through blood circulation. When this complex reaches the target tissue, the whole complex will be taken up by cells containing the corresponding receptor for the ligand through receptor mediated process. Because of the NLS in the polypeptide-ligand complex, the complex will enter into the nucleus, resulting in a stable integration of the introduced gene into the host chromosome and, thereby, a correction of the genetic defect in the host. Cell-specific receptors are well known to those of skill in the art, as are their ligands which can be used in complexes for receptor-mediated gene transfer. Michael, S. I., *et al.*, J. Biol. Chem. 268: 6866 (1993). For example, when the liver is the tissue targeted for gene therapy, the DNA encoding corrective protein is complexed to a synthetic neoglycoprotein that will

target the complex to the asialoglycoprotein receptor on hepatocytes. For example, a cell type specific [receptor] ligand such as asialoglycoprotein can be chemically linked to the transfection vector at the carboxyl terminal of the synthetic polypeptide molecule to deliver the foreign gene directly into liver cells. An additional hinge region can be incorporated into the molecule before chemically linking the polypeptide molecule to a cell-type specific ligand molecule, such as asialoglycoprotein or a cell-specific monoclonal antibody

Please amend the paragraph starting at column 10, line 41 as follows:

This method gave a stable-transfection efficiency of 5-10%. Similar results were obtained using either G418 or hygromycin selection. In general the stable transfection efficiency achieved by the method of the instant invention is a few orders of magnitude greater than prior art methods. The instant invention's 5-10% efficiency is several orders of magnitude better than the efficiency of the DNA-CaPO.sub.4 co-precipitation method and at least equal or 5 times greater than the fairly high 1-10% level of stable transfection efficiency achieved by viral based methods. See Table II.

Please amend the paragraph starting at column 13, starting at line 16, please replace the sentence:

The presence of SV40 large T antigen and adenovirus E1A gene products in the HUVEC extended life cell line, as detected by ELISA, are shown in [t] Table 2 III. Briefly, the cell line grown in a 96 well tissue culture plate is fixed with glutaraldehyde and paraformaldehyde. The cells are then treated with antibodies to the corresponding oncogenes. Thereafter, the cells are washed and then treated with a secondary antibody linked with to .beta.-galactosidase. The cells are washed and

then treated with a substrate for .beta.-galactosidase. The reaction develops a product which is then measured using a microplate reader.

Please amend the paragraph starting at column 13, line 38 as follows:

Also, the maintenance of the parental phenotype in cells lines established according to the present invention can be determined by a number of biochemical methods, such as ELISA and enzyme assays, that determine the presence or function of a protein specific to the parental cell line. An antibody recognizing a protein produced only [bythe] by the parental cell line can be used in an ELISA or immunofluorescence assay. Cell-specific markers are well known to those of skill in the art. For example, albumin is a marker for hepatocytes, insulin is a marker for pancreatic beta islet cells, factor VIII is a marker for endothelial cells, actin and myosin are markers for smooth muscle cells, and non-specific [esterass] esterase is a marker for brain microglial cells. In Table [II] III, the parental phenotype of the extended life endothelial cells produced by the present method of the invention was verified by several ELISAs to determine the expression of cell-specific endothelial markers. The parental phenotype of the monocyte/macrophage extended life cell lines produced by the present method was verified using a lysozyme enzyme assay to measure macrophage specific markers.

Please amend the paragraph starting at column 14, line 34 as follows:

Some of the properties that are characteristic of endothelial cells that were measured in the HUVEC extended life cell line are also listed in Table [2] III. These properties were also measured by ELISA using specific antibodies listed in the Table [2] III.